

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 05FLWW100	FOR FURTHER ACTION	See item 4 below
International application No. PCT/KR2005/002989	International filing date (<i>day/month/year</i>) 09 September 2005 (09.09.2005)	Priority date (<i>day/month/year</i>) 09 September 2004 (09.09.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant LG ELECTRONICS, INC.		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 13 March 2007 (13.03.2007)
Facsimile No. +41 22 338 82 70	Authorized officer <div style="text-align: center; font-weight: bold; margin-top: 10px;">Philippe Becamel</div> e-mail: pt12.pct@wipo.int

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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Seoul 135-080 Republic of Korea

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **14 DECEMBER 2005 (14.12.2005)**

Applicant's or agent's file reference
05FLWW100

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2005/002989

International filing date (day/month/year)

09 SEPTEMBER 2005 (09.09.2005)

Priority date(day/month/year)

09 SEPTEMBER 2004 (09.09.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC7 A47L 15/46

Applicant

LG ELECTRONICS, INC. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon
302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Date of completion of this opinion

13 DECEMBER 2005 (13.12.2005)

Authorized officer

KIM, Sang Wook

Telephone No. 82-42-481-5476



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2005/002989

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ on paper
☐ in electronic form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in electronic form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2005/002989

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims		NO

2. Citations and explanations :

Reference is made to the following documents:

D1: KR 10-1996-0016834 A

D2: KR 10-1995-0009390 A

The present invention relates to a controlling method of a dishwasher which includes executing various cycles according to a selected course, beginning a rinse cycle during the various cycles, controlling the operation of a heater and a wash pump according to whether or not the rinse cycle is specified as a hot rinse cycle, ending the operation of the wash pump upon completion of the rinse cycle, and performing subsequent cycles.

D1 discloses a method for determining the quantity of dishes in a dishwashing and drying apparatus by sensing the electric power, the initial water temperature and the temperature variation, and applying a fuzzy membership function to the sensed value. The method comprises the steps of: checking the state of the input power voltage and the water level; sensing the initial water temperature (A); checking the variation of the water temperature; calculating the quantity of dishes based on the sensed value by using the fuzzy inference; and setting a rinsing time, a washing time and a drying time.

D2 discloses a water temperature control method comprising the steps of: checking a temperature of water fed to determine whether the temperature reaches a target water temperature and performing twice bypass operations for water discharging, water re-feeding or control completion according to the determined result; expecting a linear type of a water temperature to time to determine whether or not the temperature of water re-fed reaches the target water temperature; if the temperature is over the target water temperature, executing third and fourth bypass operations to determine whether or not the temperature of water re-fed is equal to the target water temperature; and if it is equal, completing a water temperature control.

(Continued on Supplemental Sheet.)

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2005/002989

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of :

Box V.

Novelty

Neither D1 nor D2 discloses a dishwasher including executing various cycles according to a selected course as set forth in the present claims 1–20. Therefore, the subject matter of claims 1–20 is considered to be novel under PCT Article 33(2).

Inventive Step

The dishwasher of claims 1–4 and the controlling method of the dishwasher of claims 5–20, which includes executing various cycles according to a selected course, controlling the operation of a heater and a wash pump according to whether or not the rinse cycle is specified as a hot rinse cycle, ending the operation of the wash pump upon completion of the rinse cycle, and performing subsequent cycles, could have been arrived at by a combination of D2 and D1 which discloses a method for determining the quantity of dishes in a dishwashing and drying apparatus by sensing the electric power, the initial water temperature, the temperature variation and the target water temperature. Accordingly, the subject matter of claims 1–20 does not involve an inventive step under PCT Article 33(3).

Industrial Applicability

Claims 1–20 are considered to be industrially applicable under PCT Article 33(4).